

## Opinions and attitudes of the local people towards family planning: Nyala/Sudan example

Attitudes and behaviors of sudanese about family planning in Nyala region

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### Abstract

**Aim:** Family planning (FP) is an application that enables individuals to avoid unplanned pregnancy, arrange the time between pregnancies, and have a baby anytime they want and the childless individuals to have a baby. The purpose of the study is to identify the opinions and attitudes of married male and females in the Nyala region in Sudan towards FP methods and shed light on the actions to be taken on this matter.

**Material and Methods:** This cross-sectional, analytical questionnaire study was conducted on married males and females in the Nyala region in Sudan.

**Results:** Two hundred and nine people in total participated in the study. In the study, there were 168 people (80.38%) who think that family planning is necessary. The reasons that are mostly stated for this (132 people 79.04%) are economic. Thirty-nine (95.12%) of those who do not believe in the necessity of family planning stated their religious belief as the reason. There were 120 people (57.42%) in the study that utilize family planning.

**Discussion:** It is concluded that males and females in the Nyala region have insufficient knowledge about modern FP methods, and the utilization rate of FP methods is too low.

### Keywords

Family health; Public health; Family planning; Contraception; Women's health

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## Introduction

Family planning (FP) is an application that enables individuals to avoid unplanned pregnancy, arrange the time between pregnancies, and have a baby anytime they want, and childless individuals to have a baby. FP methods prevent superfecundity, which affects maternal and infant health negatively and contribute significantly to the protection and improvement of community health as well as maternal and child health [1]. As rapid population growth negatively affects the national economy, FP also contributes to this field [2]. Postpartum family planning also helps prevent short interbirth intervals, high-risk and unwanted pregnancies, and reduces the risk of maternal mortality. Therefore, it is regarded as a component of maternal health [3].

Individuals' knowledge about FP methods and the accessibility to FP methods have a significant influence on their decision as to whether they use contraception methods and their choice of method. In developing countries, high birth rate is the leading cause of maternal mortality [4]. Thus, the provision of FP services efficiently contributes to both maternal and child health and community health [5,6].

Previous study has found that 62% of women of childbearing age use contraception methods. Although the use of contraceptives is pretty common, it has been reported that 49% of all pregnancies in the United States of America in 2001 were unwanted pregnancies and 42% of those pregnancies were terminated by means of abortion, which is one of the most common surgical procedures among women of childbearing age in the USA [7]. Likewise, a recent CDC (Center for Disease Control and Prevention) report indicates that 64.9% of women of childbearing age use contraceptives [8].

In developing countries, around 137 million women who want to avoid pregnancy do not use any family planning method. Around 80 million out of 210 million pregnancies every year are unplanned. Around 42 million pregnant women want to terminate their unplanned pregnancy. In Sudan, the contraceptive prevalence rate (CPR) is 7.7%. The reasons behind this low prevalence rate are low admission rate, failure to access FP services and fear of the side effects of FP methods [9].

According to the data of Sudan Statistical Institution (Central Bureau of Statistics) for the year 2018, the population of Sudan is 39,280,000 and 3,583,000 of the population lives in South Darfur state, the capital of which is Nyala. Also, there are 955,000 women of childbearing age (ages 15-49) in South Darfur state. The literacy rate of males in the region is 80%, and the literacy rate of females is 53%. The mortality rate of children under the age of 5 is 71.9/1000, the mortality rate of the babies is 52.6/1000. The fertility rate in the region was reported to be 6.9 (available at: <http://cbs.gov.sd/resources/uploads/files/>). According to the Sudan Household Health Survey (Federal Ministry of Health, Central Bureau of Statistics. Sudan Household Health Survey. Khartoum; 2010), the Maternal Mortality Rate (MMR) is about 750 per 100,000 Sudanese population. In addition, the annual income per capita is 2370 American Dollars according to the data of the World Health Organization. According to the same data, in Sudan,

annual health care spending per capita is 283 American Dollars. The health care spending in Sudan constitutes 8.4% of gross national income (available at: <https://www.who.int/countries/sdn/en/>).

Family planning services in Sudan started in 1965 and were included in Basic Health System in 1985; nevertheless, the utilization rate of these services in 2012 is still below 9%, which is the lowest level in the Eastern Mediterranean Region (EMR). The reduction of MMR for some countries in EMR, such as Sudan, is still below 25% [10]. Considering all these sociodemographic and health data of Sudan, learning and using FP methods are crucial. For healthcare professionals to be able to provide an efficient FP service, individuals' utilization rate of and beliefs on FP methods must be determined and quality education and consultancy services that they need to develop a positive attitude towards the use of FP methods must be provided.

This study aims to identify the opinions and attitudes of married males and females in the Nyala region in Sudan towards FP methods and to shed light on the actions to be taken in this regard.

## Material and Methods

This cross-sectional analytical questionnaire study was conducted on married males and females in the Nyala region in Sudan. A total of 209 people participated in the study. First, or the study, the authors prepared a questionnaire consisting of 8 questions, which also contains the socio-economic and demographical data of the participants. Then, this questionnaire was translated into Arabic by translators who know Turkish and Arabic. Participants were randomly chosen out of the patients and patient relatives who applied to Nyala Sudan-Turkish Training and Research Hospital. The participants/their spouses who are of childbearing age were included in the study. With the help of translators, the study was explained to the participants in clear and understandable language, and those who agreed to participate in the study were asked to fill in the questionnaire upon their approval. The data were translated into Turkish by the translators after the questionnaires were filled in. The permissions necessary for this study were obtained from the Nyala Sudan-Turkish Training and Research Hospital. The expenses (Translation fee, stationery expenses, etc.) for the study were covered by the researchers.

The data was uploaded to Microsoft Excel 2016 and statistical analyses were performed by means of the program SPSS version 17.0. The conformity of the variables to the normal distribution was analyzed using histogram charts and the Kolmogorov-Smirnov test. Mean and standard deviation, and median values were used in the presentation of descriptive analyses. Categorical variables were compared using Pearson's Chi-square Test. The Mann-Whitney U test was used for evaluation of nonnormal (nonparametric) variables between two groups; The Kruskal-Wallis Test was used for evaluation of them among more than two groups. Spearman' Correlation Test was utilized in the analysis of the measurable data. The cases with p-value below 0.05 were considered statistically significant results.

**Results**

A total of 209 participants participated in the study; 102 (%48.8) were male and 107(%51.2) were female. Educational status of the participants was as follows orphanage (4.31%), primary school (57.89%), high school (57.89%) and university (10.53%). It was determined that 78.95% of the participants, had economic status below the average, 18.66%, had average economic status and 2.4% above the average. Among the participants, 44.98% (n=94) wanted more than 6 children, while only 30.14% (n=63) of them wanted less than 5 children. The mean age of the participants was 36.81 (±8.62); the mean marriage period was 9.44 (±7.19) years. The mean number of children of the participants was 5.11 (±3.57); the mean number of their siblings was 6.58 (±6.37).

There were 168 people (80.38%) who believed in the necessity of family planning. The reasons that are mostly stated for this (132 (79.04%) people) are economic. Thirty-nine (95.12%) of those who don't believe in the necessity of family planning, stated their religious belief for this. Twenty-nine (70.73%) of those who do not believe in the necessity of family planning stated that they made this decision based on their opinions. There were 120 people (57.42%) who utilize family planning.

There were 66 people who prefer long-term breastfeeding as a method of family planning and 104 people who prefer safe period follow-up. Two hundred and three people think that the coil reduces sexual intercourse; 206 people think that the males who had tubal ligation surgery do not receive sexual pleasure; 201 people think that the females who had tubal ligation surgery do not receive sexual pleasure; 200 people think that use of family planning method by unmarried people does not make sense; 23 people think that birth control techniques reduce virility; 199 people think that AIDS can be reduced by birth control techniques; 202 people think that cervical and penile cancer can be prevented by birth control techniques (Table 1).

One hundred sixty-six people (79.43%) think that the family planning apparatus and mentality protect people from infections; 31 people (14.83%) think that they protect from unhealthy pregnancies. Those who want more than six children are older than the others (p<0,001).

There is a linear correlation between the age, marriage period, number of spouses, number of pregnancies, and number of children of the participants (p<0.001, r=0.764; p<0.001, r=0.522; p<0.001, r=0.640; p<0.001, r=0.618).

The number of males who get a college education is lower than that of females. The number of males who believe that family planning is necessary is lower than that of females. The utilization rate of family planning methods is lower in males compared to females. The number of males who do not use any of contraception, such as contraceptive pills, tubal ligation, and RIA method, is higher than that of females (Table 2).

Those who utilize family planning methods have fewer children (Table 3). Those who have heard about the long-term breastfeeding method and do not use it have more children than those who use it continuously (p=0.013). Additionally, those who heard of the safe period follow-up method and do not use it have more children than those who use it continuously (p<0.001). There was no statistical difference between the number of children among those who have never heard of other

family planning methods, those who have heard but did not apply them, those who used them in the past, and those who currently use them (p>0.005).

The rate of people who are university graduates and whose economic condition is below average was lower than that of others (p<0.001). The rate of people who are primary education graduates and want to have more than six children was higher than that of others (p<0.001). The rate of people who consider family planning necessary because of economic reasons was higher than that of people who graduated from orphanage (p=0.023). The rate of people who are university graduates and do not consider family planning necessary because of their religious beliefs was lower than that of others (p<0.001). The rate of people who graduated from orphanage and utilize family planning methods was the highest among others (p<0.001).

The rate of people whose economic condition is above average and want to have equal numbers of boys and girls was lower than that of others (p<0.001). The rate of people whose economic condition was below average and who utilize family planning methods was lower than that of others (p<0.001).

The rate of people who utilize family planning methods among those who believe that family planning is necessary was higher than that of others (p<0.001). The rate of people who continuously use long-term breastfeeding and safe period follow-up methods among those who believe that family planning is necessary was lower than that of people who do not believe in the necessity of family planning (p<0.001).

**Table 1.** Opinions of the Participants on Birth Control Methods and the Utilization Rate of These Methods

	I used it in the past		I use it all the time	
	n	%	n	%
Long-term breast-feeding	52	(24,88)	66	(31,58)
Safe period follow-up	8	(3,83)	104	(49,76)
Male condom	1	(,48)	0	(,00)
Female condom	2	(,96)	1	(,48)
Contraceptive injection	2	(,96)	1	(,48)
Contraceptive pills	0	(,00)	5	(2,39)
Vasectomy	0	(,00)	0	(,00)
Tubal ligation	0	(,00)	0	(,00)
RIA	0	(,00)	0	(,00)
Implants	1	(,48)	0	(,00)

  

	Yes		No	
	n	%	n	%
Coil reduces the number of sexual intercourse	203	(97,13)	6	(2,87)
The males who had tubal ligation surgery do not receive sexual pleasure	206	(98,56)	3	(1,44)
The females who had tubal ligation surgery do not receive sexual pleasure	201	(96,17)	8	(3,83)
Use of family planning method by unmarried people does not make sense	200	(95,69)	9	(4,31)
Birth control techniques reduce virility	23	(11,00)	186	(89,00)
AIDS can be reduced by birth control techniques	199	(95,22)	10	(4,78)
Cervical and penile cancer can be prevented by birth control techniques	202	(96,65)	7	(3,35)

**Table 2.** Opinions and Attitudes of the Participants by Gender towards Family Planning Methods

		Male		Female		p
		n	%	n	%	
Educational background	Orphanage	2	(1,96)	7	(6,54)	0,010
	Primary School	36	(35,29)	21	(19,63)	
	High School	58	(56,86)	63	(58,88)	
	University	6	(5,88)	16	(14,95)	
How many children do you want to have?	1-2	6	(5,88)	12	(11,21)	0,282
	3-4	23	(22,55)	22	(20,56)	
	5-6	22	(21,57)	30	(28,04)	
	>6	51	(50,00)	43	(40,19)	
What gender do you prefer for your children?	Doesn't matter	1	(,98)	4	(3,74)	0,834
	All girls	1	(,98)	2	(1,87)	
	All boys	1	(,98)	1	(,93)	
	Equal	86	(84,31)	88	(82,24)	
	Mostly girls	5	(4,90)	5	(4,67)	
	Mostly boys	8	(7,84)	7	(6,54)	
Do you think that family planning is necessary?	No	34	(33,33)	7	(6,54)	<0,001
	Yes	68	(66,67)	100	(93,46)	
If yes, why?	Economic	59	(86,76)	73	(73,74)	0,136
	Education	5	(7,35)	2	(2,02)	
	Health	0	(,00)	1	(1,01)	
	Demand of the Spouse	0	(,00)	1	(1,01)	
	Others	0	(,00)	2	(2,02)	
	Economic and Education	3	(4,41)	13	(13,13)	
	Economic, Education and Health	1	(1,47)	5	(5,05)	
	Economic, Health and Others	0	(,00)	1	(1,01)	
	Economic, Education, Health and Demand of the Spouse	0	(,00)	1	(1,01)	
If no, why?	I think it doesn't suit my religious belief	33	(97,06)	6	(85,71)	0,204
	I think our country will get stronger	1	(2,94)	1	(14,29)	
If your answer to the 3rd question is no, whose opinions do you care about?	Of my own	28	(82,35)	1	(14,29)	<0,001
	Partner	1	(2,94)	0	(,00)	
	Acquaintance	0	(,00)	2	(28,57)	
	Healers and/or voodooos	0	(,00)	3	(42,86)	
	Religious leaders	2	(5,88)	1	(14,29)	
	Of my own and my partner	3	(8,82)	0	(,00)	
Do you use family planning methods?	No	75	(73,53)	14	(13,08)	<0,001
	Yes	27	(26,47)	93	(86,92)	
Long-term breast-feeding	I never heard of it	1	(,98)	1	(,93)	<0,001
	I have heard of it, but I didn't use it	75	(73,53)	14	(13,08)	
	I used it in the past	9	(8,82)	43	(40,19)	
	I use it all the time	17	(16,67)	49	(45,79)	
Safe period follow-up	I never heard of it	2	(1,96)	11	(10,28)	<0,001
	I have heard of it, but I didn't use it	74	(72,55)	10	(9,35)	
	I used it in the past	0	(,00)	8	(7,48)	
Male condom	I use it all the time	26	(25,49)	78	(72,90)	0,097
	I never heard of it	49	(48,04)	65	(60,75)	
	I have heard of it, but I didn't use it	53	(51,96)	41	(38,32)	
	I used it in the past	0	(,00)	1	(,93)	
Female condom	I use it all the time	0	(,00)	0	(,00)	0,311
	I never heard of it	97	(95,10)	96	(89,72)	
	I have heard of it, but I didn't use it	5	(4,90)	8	(7,48)	
	I used it in the past	0	(,00)	2	(1,87)	
	I use it all the time	0	(,00)	1	(,93)	

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Contraceptive injection	I never heard of it	93	(91,18)	92	(85,98)	0,345
	I have heard of it, but I didn't use it	9	(8,82)	12	(11,21)	
	I used it in the past	0	(,00)	2	(1,87)	
	I use it all the time	0	(,00)	1	(,93)	
Contraceptive pills	I never heard of it	96	(94,12)	75	(70,09)	<0,001
	I have heard of it, but I didn't use it	6	(5,88)	27	(25,23)	
	I used it in the past	0	(,00)	0	(,00)	
	I use it all the time	0	(,00)	5	(4,67)	
Vasectomy	I never heard of it	102	(100,00)	106	(99,07)	0,328
	I have heard of it, but I didn't use it	0	(,00)	1	(,93)	
	I used it in the past	0	(,00)	0	(,00)	
	I use it all the time	0	(,00)	0	(,00)	
Tubal ligation	I never heard of it	101	(99,02)	98	(91,59)	0,012
	I have heard of it, but I didn't use it	1	(,98)	9	(8,41)	
	I used it in the past	0	(,00)	0	(,00)	
	I use it all the time	0	(,00)	0	(,00)	
RIA	I never heard of it	99	(97,06)	92	(85,98)	0,004
	I have heard of it, but I didn't use it	3	(2,94)	15	(14,02)	
	I used it in the past	0	(,00)	0	(,00)	
	I use it all the time	0	(,00)	0	(,00)	
Implants	I never heard of it	102	(100,00)	101	(95,28)	0,085
	I have heard of it, but I didn't use it	0	(,00)	4	(3,77)	
	I used it in the past	0	(,00)	1	(,94)	
	I use it all the time	0	(,00)	0	(,00)	

Chi-Square Test

**Table 3.** Comparison of opinions and attitudes of the participants towards family planning and its methods to the number of children

		Number of children			p
		Mean	s.d.	Median	
Educational background	Orphanage	4,22	±2,77	4,00	<0,001
	Primary School	6,72	±5,08	6,00	
	High School	4,88	±2,50	5,00	
	University	2,55	±2,15	2,00	
Socioeconomic condition	Below Average	5,37	±3,81	5,00	0,190
	Average	4,10	±2,29	4,00	
	Above Average	4,40	±2,70	5,00	
How many children do you want to have?	1-2	1,50	±1,20	1,00	<0,001
	3-4	2,20	±1,46	2,00	
	5-6	5,13	±1,69	5,00	
	>6	7,18	±3,84	7,00	
What gender do you prefer for your children?	Doesn't matter	5,80	±1,30	6,00	0,924
	All girls	8,00	±8,19	6,00	
	All boys	3,50	±2,12	3,50	
	Equal	4,94	±3,16	5,00	
	Mostly girls	5,30	±4,03	5,50	
	Mostly boys	6,40	±6,40	5,00	
Do you believe in the necessity of family planning?	No	5,68	±5,79	4,00	0,246
	Yes	4,97	±2,79	5,00	
If yes, why?	Economic	5,50	±2,48	6,00	<0,001
	Education	5,00	±5,20	3,00	
	Health	2,00	±.	2,00	
	Demand of the Spouse	4,00	±.	4,00	
	Others	3,50	±3,54	3,50	
	Economic and Education	2,31	±2,18	2,00	
	Economic, Education and Health	1,83	±1,33	1,00	
	Economic, Health and Others	6,00	±.	6,00	
Economic, Education, Health and Demand of the Spouse	1,00	±.	1,00		

If no, why?	I think it doesn't suit my religious belief	5,77	±5,88	4,00	0,834
	I think our country will get stronger	4,00	±4,24	4,00	
If your answer to the 3rd question is no, whose opinions do you care about?	Of my own	6,62	±6,55	4,00	0,900
	Partner	4,00	±	4,00	
	Acquaintance	3,50	±3,54	3,50	
	Healers and/or voodooos	3,33	±2,52	3,00	
	Religious leaders	3,67	±3,06	3,00	
	Of my own and my partner	3,00	±1,73	2,00	
Do you believe in the necessity of family planning?	No	6,38	±4,34	6,00	<0,001
	Yes	4,17	±2,51	5,00	

Mann-Whitney U Test; Kruskal-Wallis Test

## Discussion

The study shows that only 2.87% (n=6) of the males and females who participated in the study use modern contraception methods, 54.5% (n=114) use traditional methods. This rate is far below the world average. According to the data of WHO for the year 2019, 44% of women around the world use modern contraception methods, while only 4% of women use traditional methods ( available at: <https://www.un.org/en/development/desa/population/publications/pdf/family/ContraceptiveUseByMethodDataBooklet2019.pdf>). Although many previous studies have reported that around 50% of women in Sudan use modern contraception methods, the rate in this study is far too below that rate [10]. We consider that this is caused by socio-cultural, political, economic, and educational differences in Darfur state.

The utilization rate of FP methods is affected by various factors, such as geographical availability, restrictive religious and cultural norms, affordability, opinions and perceptions on FP, socio-cultural conditions, educational level, healthcare access, insufficient and poor quality FP services [11,12]. Most of the participants in this study believe in the necessity of FP (80.38%). The reasons for this are mostly stated (79.04%) as economic. A great majority (95.12%) of those who do not believe in the necessity of family planning stated their religious belief as the reason. Despite the large number of people who believe in the necessity of FP, misinformation on FP methods may be one of the reasons for the low utilization rate of FP. For example, 203 people think that coil reduces sexual intercourse; 206 people think that the males who had tubal ligation surgery do not receive sexual pleasure; 201 people think that the females who had tubal ligation surgery do not receive sexual pleasure; 23 people think that birth control techniques reduce virility. The individuals who hold these opinions may avoid using FP methods.

Another factor that affects the decision on the use of FP services is related to the unequal balance of power between males and females. Traditionally, males generally play a significant role in the crucial decisions on the reproductive health of women. However, FP specialists assume that males are less interested in reproductive health and they mostly focus on women [13]. Therefore, there is a limited number of studies on FP in literature that deals with the attitudes and behaviors of males. One of these studies showed that most of the male students at Venda University in South Africa have negative attitudes and behaviors towards contraceptives [14]. This study may contribute to the

literature as a study that analyses the attitudes and behaviors of both males and females. While 66.6% of the male participants believe in the necessity of FP, 93.4% of the female participants hold this opinion. Besides, 82.3% of the males care about their own opinions, only around 14.3 of the females care about their own opinions. The rate of people that have never heard of FP methods is rather high in both males and females. All these data indicate that there is a substantial need to enlighten the people in this region about FP and males should also be included in the process of enlightenment. A previous study in Khartoum/Sudan showed that the use of FP by women who participated in an innovative family planning intervention program has increased significantly [10]. As is known, many therapeutic health services are provided in the Darfur region with the support of the United Nations (UN). Based on this study, we hold the opinion that this region should also be supported in terms of FP services along with therapeutic services.

J.C. Caldwell and P. Caldwell reported that social culture in African countries necessitates the preservation of high fertility rates in the region. In many African societies, it is forbidden to avoid having any children. Thus, high fertility is approved by various communities and religious leaders. Age, settlement (urban or rural), education, and socio-economic status of women affect the utilization rate and choice of family planning methods [15]. In this study, 97.06% of those who do not believe in the necessity of family planning stated their religious belief as a reason. It was also found that age, marriage period, number of spouses, number of pregnancies and number of children of the participants are in linear correlation. The rate of people who want to have more than six children among primary school graduates is higher than among others. The rate of people who state their religious belief as a reason for not believing in the necessity of family planning among university graduates is lower than among others. Contrary to expectations, the utilization rate of family planning methods is the highest among orphanage graduates. The utilization rate of family planning methods is lower among those whose economic conditions are below average than among others.

The data in this study and the literature show that various factors affect the rate of FP use by people. Proper FP services must be provided; training must be provided on FP in socio-cultural and religious education; and males must also be included in all FP processes so that people in the Darfur region can use FP methods efficiently and properly. This will give rise to healthier mothers, healthier babies and thus healthier societies.

### Limitations

One of the limitations of the study is that the participants were chosen only out of the patients and patients' relatives who applied to Nyala Sudan-Turkish Training and Research Hospital. We could not reach the camps and villages in poor socio-cultural and economic conditions for security reasons.

### Conclusion

It is concluded that the males and females in the Nyala region have insufficient knowledge about modern FP methods and there is a great deal of misinformation about FP methods. In addition, the study found that religious belief is highly effective in considering FP unnecessary. All these reasons, along with various factors such as socio-cultural, educational, and economic factors, etc. have led to a very low utilization rates of modern FP methods. We consider that people in this region should be supported in terms of FP services as well as therapeutic health services.

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### Scientific Responsibility Statement

The authors declare that they are responsible for the article's scientific content including study design, data collection, analysis and interpretation, writing, some of the main line, or all of the preparation and scientific review of the contents and approval of the final version of the article.

### Animal and human rights statement

All procedures performed in this study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. No animal or human studies were carried out by the authors for this article.

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